

## [Archive of Mark's session](#)

# Power Up: Video Games in Education

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## Presentation Slides

[PowerUp.pdf](#) (47 MB PDF)

## What is Hard Fun?

“It’s hard. It’s fun. It’s LOGO.” (1st Grader)

“This kid called the work fun because it was hard rather than in spite of being hard.” (Seymour Papert)

“How do we make writing become hard fun?” (Seymour Papert)

## Purpose/Rationale

Digital Natives & Digital Immigrants (Prensky, 2001)

Incidental vs. Intentional Learning (Jonassen, 2002)

enGauge 21st Century Skills (NCREL, 2003)

<http://www.ncrel.org/engauge/skills/skills.htm>

## John Dewey

Experience and Education

Democracy and Education

Experimental Schools

[http://en.wikipedia.org/wiki/John\\_Dewey](http://en.wikipedia.org/wiki/John_Dewey)

## Jean Piaget

Cognitive Structures & Schemes

Functional Invariants: Adaptation & Organization

Adaptation: Assimilation & Accommodation

Stage Theory

<http://www.piaget.org>

## **Lev Vygotsky**

Experience is Social

Development is Social

The Zone of Proximal Development (ZPD)

[http://en.wikipedia.org/wiki/Lev\\_Vygotsky](http://en.wikipedia.org/wiki/Lev_Vygotsky)

## **Jerome Bruner**

A Theory of Instruction

The Process of Education

The Culture of Education

[http://en.wikipedia.org/wiki/Jerome\\_Bruner](http://en.wikipedia.org/wiki/Jerome_Bruner)

## **Seymour Papert**

Mindstorms, 1980

The Children's Machine, 1993

The Connected Family, 1996

<http://www.papert.org>

## **David H. Jonasson**

Learning to Solve Problems with Technology

Intentionality

Mind Tools

<http://www.coe.missouri.edu/~jonassen/>

## **Marc Prensky**

Digital Game Based Learning (2001)

Digital Natives, Digital Immigrants (2001)

Don't Bother Me Mom - I'm Learning! (2006)

<http://www.marcprensky.com>

## **James Paul Gee**

What Video Games Have to Teach Us About Learning and Literacy (2003)

Situated Language and Learning (2004)

Why Video Games are Good For Your Soul (2005)

[http://website.education.wisc.edu/gls/people\\_gee.htm](http://website.education.wisc.edu/gls/people_gee.htm)

## **Clark Aldrich**

Simulations and the Future of Learning (2004)

Learning by Doing (2005)

Paradoxes, Sim Words, and Big Skills...

<http://learningcircuits.blogspot.com/>

## **Virtual Leader**

<http://www.simulearn.net>

## **simSchool**

<http://www.simschool.org>

## **David Williamson Shaffer**

Epistemic Games

Simulation Prototypes

How Computer Games Help Children Learn (2006)

<http://www.epistemicgames.org>

## **Kurt Squire**

Civilization III at Indiana University

Prototypes at MIT

Games, Learning, and Society at University of Wisconsin - Madison

<http://website.education.wisc.edu/kdsquire/>

## Constance Steinkuehler

Massively Multiplayer Online Role Playing Games (MMORPGs)

Ethnographies

Games, Learning, and Society Conference

<http://website.education.wisc.edu/steinkuehler/>

## Constructivist Learning Environments

Engagement

Context

Inquiry

Collaboration

Reflection

## Web-Based Games

Play in your browser

Mostly FREE

Engaging and content related

Great for younger students

<http://www.furl.net/members/ewagner>

## Commercial Off The Shelf (COTS) Games

Teachers may not be able to develop a cutting edge game, but many games can be repurposed.

“Instead of embedding a game into learning, it is possible to embed learning into a game.” (Downes, 2005)

Civilization III & IV

The “Age Of...” Series

The Sim Games

The “Tycoon” Series

And More...

[http://www.mackenty.org/index.php/games\\_work/](http://www.mackenty.org/index.php/games_work/)

## Civilization III

Turn-Based Strategy

Systems Content

Social Studies Concepts

Complexity, flexibility, replayability

Failure and choice

Kurt Squire's Dissertation (2004)

<http://www.civ3.com>

## **Civilization III**

25% complained the game was too hard, complicated and uninteresting.

25% loved playing the game, thought it was a “perfect way to learn history”, and a highlight of their year.

Students played the game in different ways, leading to highly different understandings.

Playing games does not appeal to everyone, and no one game appeals to all gamers.

<http://website.education.wisc.edu/kdsquire/>

## **Mods**

Aurora / World Editor

Dungeon Siege

Unreal Engine

Civ IV, The Sims 2, GTA, and More...

[http://en.wikipedia.org/wiki/Mod\\_\(computer\\_gaming\)](http://en.wikipedia.org/wiki/Mod_(computer_gaming))

## **Neverwinter Nights**

Role Playing Game (RPG)

Toolset for user-made content

Teachers can be gamemasters (GMs)

MIT's Revolution Mod

<http://educationarcade.org/revolution>

## **Educational Games**

Revolution [www.educationarcade.org](http://www.educationarcade.org)

Making History [www.making-history.com](http://www.making-history.com)

Dimenxian [www.dimenxian.com](http://www.dimenxian.com)

And More...

## Making History

Designed for education!

Assessment features

Successfully piloted

<http://www.making-history.com>

## Dimenxian

Homework just got harder!

Learn Math or Die Trying.

<http://www.dimenxian.com/>

## Serious Games

A purpose other than entertainment...

Games that Educate, Train, and Inform

Education, Government, Health, First Response, Science...

<http://www.seriousgames.org>

## Games for Change

Games meant to “effect positive social change”

The WFP’s Food Force - <http://www.food-force.com>

Peter Packet - <http://www.peterpacket.org>

Dean for Iowa - <http://www.deanforamericagame.com>

Global Kid’s playing for keeps - <http://www.globalkids.org>

<http://www.gamesforchange.org>

## PeaceMaker

<http://www.peacemaker.com>

## Games For Health

Games being built for health care applications

Researchers, medical professionals, and game developers

Using game technologies to create new ways of improving the management, quality, and provision of

healthcare worldwide.

<http://www.gamesforhealth.com>

## **Creating Games**

Global Kids' playing for keeps. [www.globalkids.org](http://www.globalkids.org)

Brea High School Global IT Academy (Visual Basic) - <http://www.globalitacademy.org>

<http://www.garagegames.com>

<http://www.thinkingworlds.com>

Spreadsheet Simulations

Maps, Storyboards, and Screenshots...

## **Game Design & Theory**

What Players Want

Elements of Gameplay

Non-Linear Storytelling

[www.paranoidproductions.com/gamedesign/](http://www.paranoidproductions.com/gamedesign/)

## **Creating Emotion**

Emotioneering

Interesting & Deepening

Character Diamonds

Role Induction

[www.freemangames.com](http://www.freemangames.com)

## **Gender Inclusive Design**

Females and Machines

Female Characters

Conflict Resolution Styles

Reward and Gameplay

[www.sirenia.com](http://www.sirenia.com)

## **Roll Playing Games**

Origins of the RPG

Cultural Structure  
Spheres of Performance  
How can computers support this?

## **Organizational Change**

Systems Thinking  
Collaborative Learning  
Resistance and Challenges  
Leadership  
Professional Development  
Family and the Community

## **Final Thoughts**

Aldrich: Just do it!  
March: Be subversive!  
Sturman: Go forth and do great things!

## **Games in Education Resources**

Education Arcade - <http://www.educationarcade.org>  
Games, Learning and Society - <http://www.glsconference.org>  
Serious Games Summit - <http://www.seriousgamessummit.com>  
Bill MacKenty's Blog (a great place to start!) - <http://www.mackenty.org/learn/teachers>  
Video Games in Education (Google Video) -  
<http://video.google.com/videoplay?docid=6117726917684965691> - [mguerena](#)

## **Reflection**

How might you use video games with your students?  
What would your next steps be?

## **Q & A**

## **Discussion**

Please add your thought below by clicking on "Edit This Page" above.



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